



**STATE OF TENNESSEE
DEPARTMENT OF HEALTH
ENVIRONMENTAL LABORATORIES**

TDH: Lab Services JRL
Lab Services - Jackson Regional Lab
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TDH: Lab Services KRL
Lab Services - Knoxville Regional Lab
Knoxville, TN 37920
865-549-5201

TDH: Lab Services NCL
Lab Services - Nashville Central Lab
Nashville, TN 37243
615-262-6300

Sent To: Greg Denton
TDEC-WPC
6th Floor, L & C Tower Annex
401 Church Street
Nashville, TN 37243-1534


Michael Atchley
TDEC-WPC
Knoxville FO
3711 Middlebrook Pike
Knoxville, TN 37921

Lab ID: K00003194
Knoxville Regional Laboratory

Sampling Agency: TDEC: Division of Water Pollution Control

Billing Code: 327.34-20

This is to certify that the following results were determined using
good laboratory practices and in accordance with federal or state
approved methodologies.


Analytical Supervisor
For Anthony Wilson

Lab-Sample Number: K00003194001
Project Name: TVA-Ash Spill
Sample Description: Emory River mile 12.1
Sampler Project Name: TVA ash spill
Project Site No.: 1
Station No.: EMORY012.1RO
Date/Time Collected: 12/08/2009 11:36
Sampler's Name: Geoff Klein
County: ROANE - 73
Sample Matrix: Water
EFO: Knoxville
Sampling Agency: TDEC-WPC
Billing Code: 327.34-20
Send Report To: TDEC-WPC
Agency Invoiced: TDEC-WPC
Priority Date: 12/18/2009
Date/Time Received: 12/08/2009 12:51
Received By: Ken Hitchman

Field Determinations
pH: 7.60 pH Units
Chlorine, residual:
Conductivity: 38 uMHO
Temperature: 6.13
Dissolved Oxygen: 15.10 mg/L
Other:
Flow: CFS

TEST: Digestion Metals			METHOD: EPA 200.2			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	12/09/2009				M Pattanayek	12/9/2009

TEST: ICP			METHOD: EPA 200.7			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Iron	170	µg/L	2.9	10	A Wilson	12/10/2009

TEST: ICP-MS			METHOD: EPA 200.8			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	57	µg/L	6.4	10	M Pattanayek	12/9/2009
Antimony	U	µg/L	0.33	1	M Pattanayek	12/9/2009
Arsenic	U	µg/L	0.93	5	M Pattanayek	12/9/2009
Barium	19	µg/L	2.5	5	M Pattanayek	12/9/2009
Beryllium	U	µg/L	0.11	1	M Pattanayek	12/9/2009
Cadmium	U	µg/L	0.41	1	M Pattanayek	12/9/2009
Chromium	U	µg/L	2.0	5	M Pattanayek	12/9/2009
Cobalt	0.20J	µg/L	0.04	1	M Pattanayek	12/9/2009
Copper	U	µg/L	0.38	1	M Pattanayek	12/9/2009
Lead	U	µg/L	0.10	1	M Pattanayek	12/9/2009
Manganese	45	µg/L	0.42	1	M Pattanayek	12/9/2009
Nickel	U	µg/L	0.25	1	M Pattanayek	12/9/2009
Selenium	U	µg/L	1.3	5	M Pattanayek	12/9/2009
Silver	U	µg/L	0.03	0.25	M Pattanayek	12/9/2009
Thallium	0.060J	µg/L	0.03	1	M Pattanayek	12/9/2009
Vanadium	U	µg/L	3.4	5	M Pattanayek	12/9/2009
Zinc	3.7J	µg/L	1.9	5	M Pattanayek	12/9/2009

Lab-Sample Number: K00003194001
Project Name: TVA-Ash Spill
Sample Description: Emory River mile 12.1
Sampler Project Name: TVA ash spill
Project Site No.: 1
Station No.: EMORY012.1RO
Date/Time Collected: 12/08/2009 11:36
Sampler's Name: Geoff Klein
County: ROANE - 73
Sample Matrix: Water
EFO: Knoxville
Sampling Agency: TDEC-WPC
Billing Code: 327.34-20
Send Report To: TDEC-WPC
Agency Invoiced: TDEC-WPC
Priority Date: 12/18/2009
Date/Time Received: 12/08/2009 12:51
Received By: Ken Hitchman

Field Determinations
pH: 7.60 pH Units
Chlorine, residual:
Conductivity: 38 uMHO
Temperature: 6.13
Dissolved Oxygen: 15.10 mg/L
Other:
Flow: CFS

TEST: Mercury		METHOD: EPA 245.1					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE	
Mercury	U	µg/L	0.029	0.2	M Pattanayek	12/15/2009	

J - Estimated value between MDL and MQL
MDL - Method Detection Limit
MQL - Method Quantitation Limit
U - Undetected

Lab-Sample Number: K00003194002
Project Name: TVA-Ash Spill
Sample Description: Emory River mile 2.1
Sampler Project Name: TVA ash spill
Project Site No.: 2
Station No.: EMORY002.1RO
Date/Time Collected: 12/08/2009 09:58
Sampler's Name: Geoff Klein
County: ROANE - 73
Sample Matrix: Water
EFO: Knoxville
Sampling Agency: TDEC-WPC
Billing Code: 327.34-20
Send Report To: TDEC-WPC
Agency Invoiced: TDEC-WPC
Priority Date: 12/18/2009
Date/Time Received: 12/08/2009 12:51
Received By: Ken Hitchman

Field Determinations
pH: 7.92 pH Units
Chlorine, residual:
Conductivity: 44 uMHO
Temperature: 6.89
Dissolved Oxygen: 16.18 mg/L
Other:
Flow: CFS

TEST: Digestion Metals			METHOD: EPA 200.2			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	12/09/2009				M Pattanayek	12/9/2009

TEST: ICP			METHOD: EPA 200.7			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Iron	340	µg/L	2.9	10	A Wilson	12/10/2009

TEST: ICP-MS			METHOD: EPA 200.8			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	210	µg/L	6.4	10	M Pattanayek	12/9/2009
Antimony	U	µg/L	0.33	1	M Pattanayek	12/9/2009
Arsenic	U	µg/L	0.93	5	M Pattanayek	12/9/2009
Barium	25	µg/L	2.5	5	M Pattanayek	12/9/2009
Beryllium	U	µg/L	0.11	1	M Pattanayek	12/9/2009
Cadmium	U	µg/L	0.41	1	M Pattanayek	12/9/2009
Chromium	U	µg/L	2.0	5	M Pattanayek	12/9/2009
Cobalt	0.25J	µg/L	0.04	1	M Pattanayek	12/9/2009
Copper	U	µg/L	0.38	1	M Pattanayek	12/9/2009
Lead	0.29J	µg/L	0.10	1	M Pattanayek	12/9/2009
Manganese	42	µg/L	0.42	1	M Pattanayek	12/9/2009
Nickel	0.93J	µg/L	0.25	1	M Pattanayek	12/9/2009
Selenium	U	µg/L	1.3	5	M Pattanayek	12/9/2009
Silver	U	µg/L	0.03	0.25	M Pattanayek	12/9/2009
Thallium	0.040J	µg/L	0.03	1	M Pattanayek	12/9/2009
Vanadium	U	µg/L	3.4	5	M Pattanayek	12/9/2009
Zinc	1.9J	µg/L	1.9	5	M Pattanayek	12/9/2009

Lab-Sample Number: K00003194002
Project Name: TVA-Ash Spill
Sample Description: Emory River mile 2.1
Sampler Project Name: TVA ash spill
Project Site No.: 2
Station No.: EMORY002.1RO
Date/Time Collected: 12/08/2009 09:58
Sampler's Name: Geoff Klein
County: ROANE - 73
Sample Matrix: Water
EFO: Knoxville
Sampling Agency: TDEC-WPC
Billing Code: 327.34-20
Send Report To: TDEC-WPC
Agency Invoiced: TDEC-WPC
Priority Date: 12/18/2009
Date/Time Received: 12/08/2009 12:51
Received By: Ken Hitchman

Field Determinations
pH: 7.92 pH Units
Chlorine, residual:
Conductivity: 44 uMHO
Temperature: 6.89
Dissolved Oxygen: 16.18 mg/L
Other:
Flow: CFS

TEST: Mercury		METHOD: EPA 245.1					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE	
Mercury	U	µg/L	0.029	0.2	M Pattanayek	12/15/2009	

J - Estimated value between MDL and MQL
MDL - Method Detection Limit
MQL - Method Quantitation Limit
U - Undetected

Lab-Sample Number: K00003194003
Project Name: TVA-Ash Spill
Sample Description: Emory River mile 1.9 at underwater weir
Sampler Project Name: TVA ash spill
Project Site No.: 2B
Station No.: EMORY001.9RO
Date/Time Collected: 12/08/2009 10:08
Sampler's Name: Geoff Klein
County: ROANE - 73
Sample Matrix: Water
EFO: Knoxville
Sampling Agency: TDEC-WPC
Billing Code: 327.34-20
Send Report To: TDEC-WPC
Agency Invoiced: TDEC-WPC
Priority Date: 12/18/2009
Date/Time Received: 12/08/2009 12:51
Received By: Ken Hitchman

Field Determinations
pH: 7.71 pH Units
Chlorine, residual:
Conductivity: 44 uMHO
Temperature: 6.97
Dissolved Oxygen: 15.89 mg/L
Other:
Flow: CFS

TEST: Digestion Metals			METHOD: EPA 200.2			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	12/09/2009				M Pattanayek	12/9/2009

TEST: ICP			METHOD: EPA 200.7			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Iron	520	µg/L	2.9	10	A Wilson	12/10/2009

TEST: ICP-MS			METHOD: EPA 200.8			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	470	µg/L	6.4	10	M Pattanayek	12/9/2009
Antimony	U	µg/L	0.33	1	M Pattanayek	12/9/2009
Arsenic	3.6J	µg/L	0.93	5	M Pattanayek	12/9/2009
Barium	38	µg/L	2.5	5	M Pattanayek	12/9/2009
Beryllium	0.14J	µg/L	0.11	1	M Pattanayek	12/9/2009
Cadmium	U	µg/L	0.41	1	M Pattanayek	12/9/2009
Chromium	U	µg/L	2.0	5	M Pattanayek	12/9/2009
Cobalt	0.54J	µg/L	0.04	1	M Pattanayek	12/9/2009
Copper	1.0	µg/L	0.38	1	M Pattanayek	12/9/2009
Lead	0.87J	µg/L	0.10	1	M Pattanayek	12/9/2009
Manganese	43	µg/L	0.42	1	M Pattanayek	12/9/2009
Nickel	1.4	µg/L	0.25	1	M Pattanayek	12/9/2009
Selenium	U	µg/L	1.3	5	M Pattanayek	12/9/2009
Silver	U	µg/L	0.03	0.25	M Pattanayek	12/9/2009
Thallium	0.09J	µg/L	0.03	1	M Pattanayek	12/9/2009
Vanadium	3.8J	µg/L	3.4	5	M Pattanayek	12/9/2009
Zinc	2.8J	µg/L	1.9	5	M Pattanayek	12/9/2009

Lab-Sample Number: K00003194003
Project Name: TVA-Ash Spill
Sample Description: Emory River mile 1.9 at underwater weir
Sampler Project Name: TVA ash spill
Project Site No.: 2B
Station No.: EMORY001.9RO
Date/Time Collected: 12/08/2009 10:08
Sampler's Name: Geoff Klein
County: ROANE - 73
Sample Matrix: Water
EFO: Knoxville
Sampling Agency: TDEC-WPC
Billing Code: 327.34-20
Send Report To: TDEC-WPC
Agency Invoiced: TDEC-WPC
Priority Date: 12/18/2009
Date/Time Received: 12/08/2009 12:51
Received By: Ken Hitchman

Field Determinations

pH: 7.71 pH Units
Chlorine, residual:
Conductivity: 44 uMHO
Temperature: 6.97
Dissolved Oxygen: 15.89 mg/L
Other:
Flow: CFS

TEST: Mercury		METHOD: EPA 245.1				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Mercury	U	µg/L	0.029	0.2	M Pattanayek	12/15/2009

J - Estimated value between MDL and MQL
MDL - Method Detection Limit
MQL - Method Quantitation Limit
U - Undetected

Lab-Sample Number: K00003194004
Project Name: TVA-Ash Spill
Sample Description: Emory River mile 1.9 at underwater weir
Sampler Project Name: TVA ash spill
Project Site No.: 2B dup
Station No.: EMORY001.9RO
Date/Time Collected: 12/08/2009 10:08
Sampler's Name: Geoff Klein
County: ROANE - 73
Sample Matrix: Water
EFO: Knoxville
Sampling Agency: TDEC-WPC
Billing Code: 327.34-20
Send Report To: TDEC-WPC
Agency Invoiced: TDEC-WPC
Priority Date: 12/18/2009
Date/Time Received: 12/08/2009 12:51
Received By: Ken Hitchman

Field Determinations
pH: 7.71 pH Units
Chlorine, residual:
Conductivity: 44 uMHO
Temperature: 6.97
Dissolved Oxygen: 15.89 mg/L
Other:
Flow: CFS

TEST: Digestion Metals			METHOD: EPA 200.2			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	12/09/2009				M Pattanayek	12/9/2009

TEST: ICP			METHOD: EPA 200.7			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Iron	520	µg/L	2.9	10	A Wilson	12/10/2009

TEST: ICP-MS			METHOD: EPA 200.8			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	460	µg/L	6.4	10	M Pattanayek	12/9/2009
Antimony	U	µg/L	0.33	1	M Pattanayek	12/9/2009
Arsenic	3.9J	µg/L	0.93	5	M Pattanayek	12/9/2009
Barium	38	µg/L	2.5	5	M Pattanayek	12/9/2009
Beryllium	0.13J	µg/L	0.11	1	M Pattanayek	12/9/2009
Cadmium	U	µg/L	0.41	1	M Pattanayek	12/9/2009
Chromium	U	µg/L	2.0	5	M Pattanayek	12/9/2009
Cobalt	0.56J	µg/L	0.04	1	M Pattanayek	12/9/2009
Copper	1.0	µg/L	0.38	1	M Pattanayek	12/9/2009
Lead	0.89J	µg/L	0.10	1	M Pattanayek	12/9/2009
Manganese	47	µg/L	0.42	1	M Pattanayek	12/9/2009
Nickel	1.4	µg/L	0.25	1	M Pattanayek	12/9/2009
Selenium	U	µg/L	1.3	5	M Pattanayek	12/9/2009
Silver	U	µg/L	0.03	0.25	M Pattanayek	12/9/2009
Thallium	0.070J	µg/L	0.03	1	M Pattanayek	12/9/2009
Vanadium	3.6J	µg/L	3.4	5	M Pattanayek	12/9/2009
Zinc	3.8J	µg/L	1.9	5	M Pattanayek	12/9/2009

Lab-Sample Number: K00003194004
Project Name: TVA-Ash Spill
Sample Description: Emory River mile 1.9 at underwater weir
Sampler Project Name: TVA ash spill
Project Site No.: 2B dup
Station No.: EMORY001.9RO
Date/Time Collected: 12/08/2009 10:08
Sampler's Name: Geoff Klein
County: ROANE - 73
Sample Matrix: Water
EFO: Knoxville
Sampling Agency: TDEC-WPC
Billing Code: 327.34-20
Send Report To: TDEC-WPC
Agency Invoiced: TDEC-WPC
Priority Date: 12/18/2009
Date/Time Received: 12/08/2009 12:51
Received By: Ken Hitchman

Field Determinations
pH: 7.71 pH Units
Chlorine, residual:
Conductivity: 44 uMHO
Temperature: 6.97
Dissolved Oxygen: 15.89 mg/L
Other:
Flow: CFS

TEST: Mercury		METHOD: EPA 245.1					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE	
Mercury	U	µg/L	0.029	0.2	M Pattanayek	12/15/2009	

J - Estimated value between MDL and MQL
MDL - Method Detection Limit
MQL - Method Quantitation Limit
U - Undetected

Lab-Sample Number: K00003194005
Project Name: TVA-Ash Spill
Sample Description: Emory River mile 1.9 at underwater weir
Sampler Project Name: TVA ash spill
Project Site No.: 2B blank
Station No.: EMORY001.9RO
Date/Time Collected: 12/08/2009 10:08
Sampler's Name: Geoff Klein
County: ROANE - 73
Sample Matrix: Water
EFO: Knoxville
Sampling Agency: TDEC-WPC
Billing Code: 327.34-20
Send Report To: TDEC-WPC
Agency Invoiced: TDEC-WPC
Priority Date: 12/18/2009
Date/Time Received: 12/08/2009 12:51
Received By: Ken Hitchman

Field Determinations

pH:
Chlorine, residual:
Conductivity:
Temperature:
Dissolved Oxygen:
Other:
Flow: CFS

TEST: Digestion Metals			METHOD: EPA 200.2			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	12/09/2009				M Pattanayek	12/9/2009

TEST: ICP			METHOD: EPA 200.7			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Iron	U	µg/L	2.9	10	A Wilson	12/10/2009

TEST: ICP-MS			METHOD: EPA 200.8			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	U	µg/L	6.4	10	M Pattanayek	12/9/2009
Antimony	U	µg/L	0.33	1	M Pattanayek	12/9/2009
Arsenic	U	µg/L	0.93	5	M Pattanayek	12/9/2009
Barium	U	µg/L	2.5	5	M Pattanayek	12/9/2009
Beryllium	U	µg/L	0.11	1	M Pattanayek	12/9/2009
Cadmium	U	µg/L	0.41	1	M Pattanayek	12/9/2009
Chromium	U	µg/L	2.0	5	M Pattanayek	12/9/2009
Cobalt	U	µg/L	0.04	1	M Pattanayek	12/9/2009
Copper	U	µg/L	0.38	1	M Pattanayek	12/9/2009
Lead	U	µg/L	0.10	1	M Pattanayek	12/9/2009
Manganese	U	µg/L	0.42	1	M Pattanayek	12/9/2009
Nickel	U	µg/L	0.25	1	M Pattanayek	12/9/2009
Selenium	U	µg/L	1.3	5	M Pattanayek	12/9/2009
Silver	U	µg/L	0.03	0.25	M Pattanayek	12/9/2009
Thallium	U	µg/L	0.03	1	M Pattanayek	12/9/2009
Vanadium	U	µg/L	3.4	5	M Pattanayek	12/9/2009
Zinc	U	µg/L	1.9	5	M Pattanayek	12/9/2009

Lab-Sample Number: K00003194005
Project Name: TVA-Ash Spill
Sample Description: Emory River mile 1.9 at underwater weir
Sampler Project Name: TVA ash spill
Project Site No.: 2B blank
Station No.: EMORY001.9RO
Date/Time Collected: 12/08/2009 10:08
Sampler's Name: Geoff Klein
County: ROANE - 73
Sample Matrix: Water
EFO: Knoxville
Sampling Agency: TDEC-WPC
Billing Code: 327.34-20
Send Report To: TDEC-WPC
Agency Invoiced: TDEC-WPC
Priority Date: 12/18/2009
Date/Time Received: 12/08/2009 12:51
Received By: Ken Hitchman

Field Determinations

pH:

Chlorine, residual:

Conductivity:

Temperature:

Dissolved Oxygen:

Other:

Flow:

CFS

TEST: Mercury		METHOD: EPA 245.1				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Mercury	U	µg/L	0.029	0.2	M Pattanayek	12/15/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

U - Undetected

Lab-Sample Number: K00003194006
Project Name: TVA-Ash Spill
Sample Description: Emory River mile 1.7
Sampler Project Name: TVA ash spill
Project Site No.: 3
Station No.: EMORY001.7RO
Date/Time Collected: 12/08/2009 10:25
Sampler's Name: Geoff Klein
County: ROANE - 73
Sample Matrix: Water
EFO: Knoxville
Sampling Agency: TDEC-WPC
Billing Code: 327.34-20
Send Report To: TDEC-WPC
Agency Invoiced: TDEC-WPC
Priority Date: 12/18/2009
Date/Time Received: 12/08/2009 12:51
Received By: Ken Hitchman

Field Determinations
pH: 7.51 pH Units
Chlorine, residual:
Conductivity: 44 uMHO
Temperature: 7.05
Dissolved Oxygen: 15.78 mg/L
Other:
Flow: CFS

TEST: Digestion Metals			METHOD: EPA 200.2			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	12/09/2009				M Pattanayek	12/9/2009

TEST: ICP			METHOD: EPA 200.7			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Iron	430	µg/L	2.9	10	A Wilson	12/10/2009

TEST: ICP-MS			METHOD: EPA 200.8			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	330	µg/L	6.4	10	M Pattanayek	12/9/2009
Antimony	U	µg/L	0.33	1	M Pattanayek	12/9/2009
Arsenic	2.1J	µg/L	0.93	5	M Pattanayek	12/9/2009
Barium	32	µg/L	2.5	5	M Pattanayek	12/9/2009
Beryllium	U	µg/L	0.11	1	M Pattanayek	12/9/2009
Cadmium	U	µg/L	0.41	1	M Pattanayek	12/9/2009
Chromium	U	µg/L	2.0	5	M Pattanayek	12/9/2009
Cobalt	0.40J	µg/L	0.04	1	M Pattanayek	12/9/2009
Copper	0.47J	µg/L	0.38	1	M Pattanayek	12/9/2009
Lead	0.60J	µg/L	0.10	1	M Pattanayek	12/9/2009
Manganese	48	µg/L	0.42	1	M Pattanayek	12/9/2009
Nickel	1.2	µg/L	0.25	1	M Pattanayek	12/9/2009
Selenium	U	µg/L	1.3	5	M Pattanayek	12/9/2009
Silver	U	µg/L	0.03	0.25	M Pattanayek	12/9/2009
Thallium	0.050J	µg/L	0.03	1	M Pattanayek	12/9/2009
Vanadium	U	µg/L	3.4	5	M Pattanayek	12/9/2009
Zinc	2.5J	µg/L	1.9	5	M Pattanayek	12/9/2009

Lab-Sample Number: K00003194006
Project Name: TVA-Ash Spill
Sample Description: Emory River mile 1.7
Sampler Project Name: TVA ash spill
Project Site No.: 3
Station No.: EMORY001.7RO
Date/Time Collected: 12/08/2009 10:25
Sampler's Name: Geoff Klein
County: ROANE - 73
Sample Matrix: Water
EFO: Knoxville
Sampling Agency: TDEC-WPC
Billing Code: 327.34-20
Send Report To: TDEC-WPC
Agency Invoiced: TDEC-WPC
Priority Date: 12/18/2009
Date/Time Received: 12/08/2009 12:51
Received By: Ken Hitchman

Field Determinations
pH: 7.51 pH Units
Chlorine, residual:
Conductivity: 44 uMHO
Temperature: 7.05
Dissolved Oxygen: 15.78 mg/L
Other:
Flow: CFS

TEST: Mercury		METHOD: EPA 245.1				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Mercury	U	µg/L	0.029	0.2	M Pattanayek	12/15/2009

J - Estimated value between MDL and MQL
MDL - Method Detection Limit
MQL - Method Quantitation Limit
U - Undetected

Lab-Sample Number: K00003194007
Project Name: TVA-Ash Spill
Sample Description: Emory River mile 0.1
Sampler Project Name: TVA ash spill
Project Site No.: 4
Station No.: EMORY000.1RO
Date/Time Collected: 12/08/2009 10:39
Sampler's Name: Geoff Klein
County: ROANE - 73
Sample Matrix: Water
EFO: Knoxville
Sampling Agency: TDEC-WPC
Billing Code: 327.34-20
Send Report To: TDEC-WPC
Agency Invoiced: TDEC-WPC
Priority Date: 12/18/2009
Date/Time Received: 12/08/2009 12:51
Received By: Ken Hitchman

Field Determinations
pH: 7.46 pH Units
Chlorine, residual:
Conductivity: 44 uMHO
Temperature: 7.18
Dissolved Oxygen: 15.90 mg/L
Other:
Flow: CFS

TEST: Digestion Metals			METHOD: EPA 200.2			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	12/09/2009				M Pattanayek	12/9/2009

TEST: ICP			METHOD: EPA 200.7			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Iron	380	µg/L	2.9	10	A Wilson	12/10/2009

TEST: ICP-MS			METHOD: EPA 200.8			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	230	µg/L	6.4	10	M Pattanayek	12/9/2009
Antimony	U	µg/L	0.33	1	M Pattanayek	12/9/2009
Arsenic	1.3J	µg/L	0.93	5	M Pattanayek	12/9/2009
Barium	29	µg/L	2.5	5	M Pattanayek	12/9/2009
Beryllium	U	µg/L	0.11	1	M Pattanayek	12/9/2009
Cadmium	U	µg/L	0.41	1	M Pattanayek	12/9/2009
Chromium	U	µg/L	2.0	5	M Pattanayek	12/9/2009
Cobalt	0.36J	µg/L	0.04	1	M Pattanayek	12/9/2009
Copper	U	µg/L	0.38	1	M Pattanayek	12/9/2009
Lead	0.45J	µg/L	0.10	1	M Pattanayek	12/9/2009
Manganese	60	µg/L	0.42	1	M Pattanayek	12/9/2009
Nickel	1.1	µg/L	0.25	1	M Pattanayek	12/9/2009
Selenium	U	µg/L	1.3	5	M Pattanayek	12/9/2009
Silver	U	µg/L	0.03	0.25	M Pattanayek	12/9/2009
Thallium	0.030J	µg/L	0.03	1	M Pattanayek	12/9/2009
Vanadium	U	µg/L	3.4	5	M Pattanayek	12/9/2009
Zinc	2.2J	µg/L	1.9	5	M Pattanayek	12/9/2009

Lab-Sample Number: K00003194007
Project Name: TVA-Ash Spill
Sample Description: Emory River mile 0.1
Sampler Project Name: TVA ash spill
Project Site No.: 4
Station No.: EMORY000.1RO
Date/Time Collected: 12/08/2009 10:39
Sampler's Name: Geoff Klein
County: ROANE - 73
Sample Matrix: Water
EFO: Knoxville
Sampling Agency: TDEC-WPC
Billing Code: 327.34-20
Send Report To: TDEC-WPC
Agency Invoiced: TDEC-WPC
Priority Date: 12/18/2009
Date/Time Received: 12/08/2009 12:51
Received By: Ken Hitchman

Field Determinations
pH: 7.46 pH Units
Chlorine, residual:
Conductivity: 44 uMHO
Temperature: 7.18
Dissolved Oxygen: 15.90 mg/L
Other:
Flow: CFS

TEST: Mercury		METHOD: EPA 245.1				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Mercury	U	µg/L	0.029	0.2	M Pattanayek	12/15/2009

J - Estimated value between MDL and MQL
MDL - Method Detection Limit
MQL - Method Quantitation Limit
U - Undetected

Lab-Sample Number: K00003194008
Project Name: TVA-Ash Spill
Sample Description: Clinch River mile 2.3
Sampler Project Name: TVA ash spill
Project Site No.: 5
Station No.: CLINC002.3RO
Date/Time Collected: 12/08/2009 11:04
Sampler's Name: Geoff Klein
County: ROANE - 73
Sample Matrix: Water
EFO: Knoxville
Sampling Agency: TDEC-WPC
Billing Code: 327.34-20
Send Report To: TDEC-WPC
Agency Invoiced: TDEC-WPC
Priority Date: 12/18/2009
Date/Time Received: 12/08/2009 12:51
Received By: Ken Hitchman

Field Determinations
pH: 7.84 pH Units
Chlorine, residual:
Conductivity: 193 uMHO
Temperature: 9.89
Dissolved Oxygen: 17.03 mg/L
Other:
Flow: CFS

TEST: Digestion Metals			METHOD: EPA 200.2			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	12/09/2009				M Pattanayek	12/9/2009

TEST: ICP			METHOD: EPA 200.7			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Iron	140	µg/L	2.9	10	A Wilson	12/10/2009

TEST: ICP-MS			METHOD: EPA 200.8			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	86	µg/L	6.4	10	M Pattanayek	12/9/2009
Antimony	U	µg/L	0.33	1	M Pattanayek	12/9/2009
Arsenic	U	µg/L	0.93	5	M Pattanayek	12/9/2009
Barium	32	µg/L	2.5	5	M Pattanayek	12/9/2009
Beryllium	U	µg/L	0.11	1	M Pattanayek	12/9/2009
Cadmium	U	µg/L	0.41	1	M Pattanayek	12/9/2009
Chromium	U	µg/L	2.0	5	M Pattanayek	12/9/2009
Cobalt	0.17J	µg/L	0.04	1	M Pattanayek	12/9/2009
Copper	U	µg/L	0.38	1	M Pattanayek	12/9/2009
Lead	0.17J	µg/L	0.10	1	M Pattanayek	12/9/2009
Manganese	29	µg/L	0.42	1	M Pattanayek	12/9/2009
Nickel	1.1	µg/L	0.25	1	M Pattanayek	12/9/2009
Selenium	U	µg/L	1.3	5	M Pattanayek	12/9/2009
Silver	U	µg/L	0.03	0.25	M Pattanayek	12/9/2009
Thallium	U	µg/L	0.03	1	M Pattanayek	12/9/2009
Vanadium	U	µg/L	3.4	5	M Pattanayek	12/9/2009
Zinc	3.0J	µg/L	1.9	5	M Pattanayek	12/9/2009

Lab-Sample Number: K00003194008
Project Name: TVA-Ash Spill
Sample Description: Clinch River mile 2.3
Sampler Project Name: TVA ash spill
Project Site No.: 5
Station No.: CLINC002.3RO
Date/Time Collected: 12/08/2009 11:04
Sampler's Name: Geoff Klein
County: ROANE - 73
Sample Matrix: Water
EFO: Knoxville
Sampling Agency: TDEC-WPC
Billing Code: 327.34-20
Send Report To: TDEC-WPC
Agency Invoiced: TDEC-WPC
Priority Date: 12/18/2009
Date/Time Received: 12/08/2009 12:51
Received By: Ken Hitchman

Field Determinations
pH: 7.84 pH Units
Chlorine, residual:
Conductivity: 193 uMHO
Temperature: 9.89
Dissolved Oxygen: 17.03 mg/L
Other:
Flow: CFS

TEST: Mercury		METHOD: EPA 245.1					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE	
Mercury	U	µg/L	0.029	0.2	M Pattanayek	12/15/2009	

J - Estimated value between MDL and MQL
MDL - Method Detection Limit
MQL - Method Quantitation Limit
U - Undetected

Lab-Sample Number: K00003194009
Project Name: TVA-Ash Spill
Sample Description: Clinch River TVA Discharge Point
Sampler Project Name: TVA ash spill
Project Site No.: 5A
Station No.: KingAshOutF2
Date/Time Collected: 12/08/2009 11:15
Sampler's Name: Geoff Klein
County: ROANE - 73
Sample Matrix: Water
EFO: Knoxville
Sampling Agency: TDEC-WPC
Billing Code: 327.34-20
Send Report To: TDEC-WPC
Agency Invoiced: TDEC-WPC
Priority Date: 12/18/2009
Date/Time Received: 12/08/2009 12:51
Received By: Ken Hitchman

Field Determinations
pH: 7.54 pH Units
Chlorine, residual:
Conductivity: 58 uMHO
Temperature: 7.19
Dissolved Oxygen: 16.55 mg/L
Other:
Flow: CFS

TEST: Digestion Metals			METHOD: EPA 200.2			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	12/09/2009				M Pattanayek	12/9/2009

TEST: ICP			METHOD: EPA 200.7			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Iron	350	µg/L	2.9	10	A Wilson	12/10/2009

TEST: ICP-MS			METHOD: EPA 200.8			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	330	µg/L	6.4	10	M Pattanayek	12/9/2009
Antimony	0.50J	µg/L	0.33	1	M Pattanayek	12/9/2009
Arsenic	3.5J	µg/L	0.93	5	M Pattanayek	12/9/2009
Barium	35	µg/L	2.5	5	M Pattanayek	12/9/2009
Beryllium	U	µg/L	0.11	1	M Pattanayek	12/9/2009
Cadmium	U	µg/L	0.41	1	M Pattanayek	12/9/2009
Chromium	U	µg/L	2.0	5	M Pattanayek	12/9/2009
Cobalt	0.34J	µg/L	0.04	1	M Pattanayek	12/9/2009
Copper	1.4	µg/L	0.38	1	M Pattanayek	12/9/2009
Lead	0.39J	µg/L	0.10	1	M Pattanayek	12/9/2009
Manganese	68	µg/L	0.42	1	M Pattanayek	12/9/2009
Nickel	1.1	µg/L	0.25	1	M Pattanayek	12/9/2009
Selenium	U	µg/L	1.3	5	M Pattanayek	12/9/2009
Silver	U	µg/L	0.03	0.25	M Pattanayek	12/9/2009
Thallium	0.060J	µg/L	0.03	1	M Pattanayek	12/9/2009
Vanadium	U	µg/L	3.4	5	M Pattanayek	12/9/2009
Zinc	2.5J	µg/L	1.9	5	M Pattanayek	12/9/2009

Lab-Sample Number: K00003194009
Project Name: TVA-Ash Spill
Sample Description: Clinch River TVA Discharge Point
Sampler Project Name: TVA ash spill
Project Site No.: 5A
Station No.: KingAshOutF2
Date/Time Collected: 12/08/2009 11:15
Sampler's Name: Geoff Klein
County: ROANE - 73
Sample Matrix: Water
EFO: Knoxville
Sampling Agency: TDEC-WPC
Billing Code: 327.34-20
Send Report To: TDEC-WPC
Agency Invoiced: TDEC-WPC
Priority Date: 12/18/2009
Date/Time Received: 12/08/2009 12:51
Received By: Ken Hitchman

Field Determinations
pH: 7.54 pH Units
Chlorine, residual:
Conductivity: 58 uMHO
Temperature: 7.19
Dissolved Oxygen: 16.55 mg/L
Other:
Flow: CFS

TEST: Mercury		METHOD: EPA 245.1				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Mercury	U	µg/L	0.029	0.2	M Pattanayek	12/15/2009

J - Estimated value between MDL and MQL
MDL - Method Detection Limit
MQL - Method Quantitation Limit
U - Undetected

Lab-Sample Number:	K00003194010	Field Determinations	
Project Name:	TVA-Ash Spill	pH:	7.95 pH Units
Sample Description:	Clinch River mile 4.5 near Sugar Grove Valley R	Chlorine, residual:	
Sampler Project Name:	TVA ash spill	Conductivity:	230 uMHO
Project Site No.:	6	Temperature:	10.75
Station No.:	CLINC004.5RO	Dissolved Oxygen:	16.94 mg/L
Date/Time Collected:	12/08/2009 10:49	Other:	
Sampler's Name:	Geoff Klein	Flow:	CFS
County:	ROANE - 73		
Sample Matrix:	Water		
EFO:	Knoxville		
Sampling Agency:	TDEC-WPC		
Billing Code:	327.34-20		
Send Report To:	TDEC-WPC		
Agency Invoiced:	TDEC-WPC		
Priority Date:	12/18/2009		
Date/Time Received:	12/08/2009 12:51		
Received By:	Ken Hitchman		

TEST: Digestion Metals		METHOD: EPA 200.2				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	12/09/2009				M Pattanayek	12/9/2009

TEST: ICP		METHOD: EPA 200.7				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Iron	55	µg/L	2.9	10	A Wilson	12/10/2009

TEST: ICP-MS		METHOD: EPA 200.8				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	34	µg/L	6.4	10	M Pattanayek	12/9/2009
Antimony	U	µg/L	0.33	1	M Pattanayek	12/9/2009
Arsenic	U	µg/L	0.93	5	M Pattanayek	12/9/2009
Barium	32	µg/L	2.5	5	M Pattanayek	12/9/2009
Beryllium	U	µg/L	0.11	1	M Pattanayek	12/9/2009
Cadmium	U	µg/L	0.41	1	M Pattanayek	12/9/2009
Chromium	U	µg/L	2.0	5	M Pattanayek	12/9/2009
Cobalt	0.13J	µg/L	0.04	1	M Pattanayek	12/9/2009
Copper	U	µg/L	0.38	1	M Pattanayek	12/9/2009
Lead	U	µg/L	0.10	1	M Pattanayek	12/9/2009
Manganese	20	µg/L	0.42	1	M Pattanayek	12/9/2009
Nickel	1.1	µg/L	0.25	1	M Pattanayek	12/9/2009
Selenium	U	µg/L	1.3	5	M Pattanayek	12/9/2009
Silver	U	µg/L	0.03	0.25	M Pattanayek	12/9/2009
Thallium	U	µg/L	0.03	1	M Pattanayek	12/9/2009
Vanadium	U	µg/L	3.4	5	M Pattanayek	12/9/2009
Zinc	U	µg/L	1.9	5	M Pattanayek	12/9/2009

Lab-Sample Number:	K00003194010	Field Determinations	
Project Name:	TVA-Ash Spill	pH:	7.95 pH Units
Sample Description:	Clinch River mile 4.5 near Sugar Grove Valley R	Chlorine, residual:	
Sampler Project Name:	TVA ash spill	Conductivity:	230 uMHO
Project Site No.:	6	Temperature:	10.75
Station No.:	CLINC004.5RO	Dissolved Oxygen:	16.94 mg/L
Date/Time Collected:	12/08/2009 10:49	Other:	
Sampler's Name:	Geoff Klein	Flow:	CFS
County:	ROANE - 73		
Sample Matrix:	Water		
EFO:	Knoxville		
Sampling Agency:	TDEC-WPC		
Billing Code:	327.34-20		
Send Report To:	TDEC-WPC		
Agency Invoiced:	TDEC-WPC		
Priority Date:	12/18/2009		
Date/Time Received:	12/08/2009 12:51		
Received By:	Ken Hitchman		

TEST: Mercury		METHOD: EPA 245.1				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Mercury	U	µg/L	0.029	0.2	M Pattanayek	12/15/2009

J - Estimated value between MDL and MQL
MDL - Method Detection Limit
MQL - Method Quantitation Limit
U - Undetected



**STATE OF TENNESSEE
DEPARTMENT OF HEALTH
ENVIRONMENTAL LABORATORIES**

TDH: Lab Services JRL
Lab Services - Jackson Regional Lab
Jackson, TN 38301
731-426-0686

TDH: Lab Services KRL
Lab Services - Knoxville Regional Lab
Knoxville, TN 37920
865-549-5201

TDH: Lab Services NCL
Lab Services - Nashville Central Lab
Nashville, TN 37243
615-262-6300

Sent To: Greg Denton
TDEC-WPC
6th Floor, L & C Tower Annex
401 Church Street
Nashville, TN 37243-1534

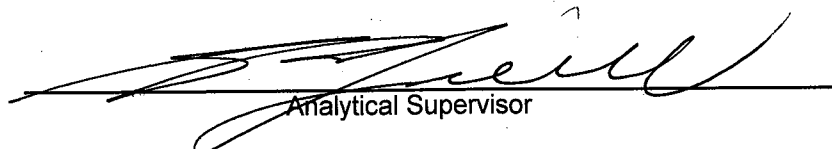
Michael Atchley
TDEC-WPC
Knoxville FO
3711 Middlebrook Pike
Knoxville, TN 37921

Lab ID: K00003194
Knoxville Regional Laboratory

Sampling Agency: TDEC: Division of Water Pollution Control

Billing Code: 327.34-20

This is to certify that the following results were determined using
good laboratory practices and in accordance with federal or state
approved methodologies.


Analytical Supervisor

Lab-Sample Number: K00003194001
Project Name: TVA-Ash Spill
Sample Description: Emory River mile 12.1
Sampler Project Name: TVA ash spill
Project Site No.: 1
Station No.: EMORY012.1RO
Date/Time Collected: 12/08/2009 11:36
Sampler's Name: Geoff Klein
County: ROANE - 73
Sample Matrix: Water
EFO: Knoxville
Sampling Agency: TDEC-WPC
Billing Code: 327.34-20
Send Report To: TDEC-WPC
Agency Invoiced: TDEC-WPC
Priority Date: 12/18/2009
Date/Time Received: 12/08/2009 12:51
Received By: Ken Hitchman

Field Determinations
pH: 7.60 pH Units
Chlorine, residual:
Conductivity: 38 uMHO
Temperature: 6.13
Dissolved Oxygen: 15.10 mg/L
Other:
Flow: CFS

TEST: Alkalinity, Total		METHOD: EPA 310.2				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	13	mg/L	3.8	10	M Chen	12/15/2009

TEST: Hardness, Calcium		METHOD: SM 3500-Ca D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	15	mg/L	0.7	1	M Chen	12/14/2009

TEST: Residue, Settleable		METHOD: SM 2540F				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Settleable Residue	U	ml/L	0.10	0.10	S Burchfield	12/9/2009

TEST: Residue, Suspended		METHOD: SM 2540D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	U	mg/L	10	10	A Peebles	12/11/2009

J - Estimated value between MDL and MQL
 MDL - Method Detection Limit
 MQL - Method Quantitation Limit
 U - Undetected

Lab-Sample Number: K00003194002
Project Name: TVA-Ash Spill
Sample Description: Emory River mile 2.1
Sampler Project Name: TVA ash spill
Project Site No.: 2
Station No.: EMORY002.1RO
Date/Time Collected: 12/08/2009 09:58
Sampler's Name: Geoff Klein
County: ROANE - 73
Sample Matrix: Water
EFO: Knoxville
Sampling Agency: TDEC-WPC
Billing Code: 327.34-20
Send Report To: TDEC-WPC
Agency Invoiced: TDEC-WPC
Priority Date: 12/18/2009
Date/Time Received: 12/08/2009 12:51
Received By: Ken Hitchman

Field Determinations
pH: 7.92 pH Units
Chlorine, residual:
Conductivity: 44 uMHO
Temperature: 6.89
Dissolved Oxygen: 16.18 mg/L
Other:
Flow: CFS

TEST: Alkalinity, Total		METHOD: EPA 310.2				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	17	mg/L	3.8	10	M Chen	12/15/2009

TEST: Hardness, Calcium		METHOD: SM 3500-Ca D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	15	mg/L	0.7	1	M Chen	12/14/2009

TEST: Residue, Settleable		METHOD: SM 2540F				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Settleable Residue	U	ml/L	0.10	0.10	S Burchfield	12/9/2009

TEST: Residue, Suspended		METHOD: SM 2540D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	10	mg/L	10	10	A Peebles	12/11/2009

J - Estimated value between MDL and MQL
MDL - Method Detection Limit
MQL - Method Quantitation Limit
U - Undetected

Lab-Sample Number: K00003194003
Project Name: TVA-Ash Spill
Sample Description: Emory River mile 1.9 at underwater weir
Sampler Project Name: TVA ash spill
Project Site No.: 2B
Station No.: EMORY001.9RO
Date/Time Collected: 12/08/2009 10:08
Sampler's Name: Geoff Klein
County: ROANE - 73
Sample Matrix: Water
EFO: Knoxville
Sampling Agency: TDEC-WPC
Billing Code: 327.34-20
Send Report To: TDEC-WPC
Agency Invoiced: TDEC-WPC
Priority Date: 12/18/2009
Date/Time Received: 12/08/2009 12:51
Received By: Ken Hitchman

Field Determinations
pH: 7.71 pH Units
Chlorine, residual:
Conductivity: 44 uMHO
Temperature: 6.97
Dissolved Oxygen: 15.89 mg/L
Other:
Flow: CFS

TEST: Alkalinity, Total		METHOD: EPA 310.2				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	17	mg/L	3.8	10	M Chen	12/15/2009

TEST: Hardness, Calcium		METHOD: SM 3500-Ca D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	17	mg/L	0.7	1	M Chen	12/14/2009

TEST: Residue, Settleable		METHOD: SM 2540F				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Settleable Residue	U	ml/L	0.10	0.10	S Burchfield	12/9/2009

TEST: Residue, Suspended		METHOD: SM 2540D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	39	mg/L	10	10	A Peebles	12/11/2009

J - Estimated value between MDL and MQL
MDL - Method Detection Limit
MQL - Method Quantitation Limit
U - Undetected

Lab-Sample Number: K00003194004
Project Name: TVA-Ash Spill
Sample Description: Emory River mile 1.9 at underwater weir
Sampler Project Name: TVA ash spill
Project Site No.: 2B dup
Station No.: EMORY001.9RO
Date/Time Collected: 12/08/2009 10:08
Sampler's Name: Geoff Klein
County: ROANE - 73
Sample Matrix: Water
EFO: Knoxville
Sampling Agency: TDEC-WPC
Billing Code: 327.34-20
Send Report To: TDEC-WPC
Agency Invoiced: TDEC-WPC
Priority Date: 12/18/2009
Date/Time Received: 12/08/2009 12:51
Received By: Ken Hitchman

Field Determinations
pH: 7.71 pH Units
Chlorine, residual:
Conductivity: 44 uMHO
Temperature: 6.97
Dissolved Oxygen: 15.89 mg/L
Other:
Flow: CFS

TEST: Alkalinity, Total		METHOD: EPA 310.2				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	18	mg/L	3.8	10	M Chen	12/15/2009

TEST: Hardness, Calcium		METHOD: SM 3500-Ca D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	16	mg/L	0.7	1	M Chen	12/14/2009

TEST: Residue, Settleable		METHOD: SM 2540F				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Settleable Residue	U	ml/L	0.10	0.10	S Burchfield	12/9/2009

TEST: Residue, Suspended		METHOD: SM 2540D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	37	mg/L	10	10	A Peebles	12/11/2009

J - Estimated value between MDL and MQL
MDL - Method Detection Limit
MQL - Method Quantitation Limit
U - Undetected

Lab-Sample Number: K00003194005
Project Name: TVA-Ash Spill
Sample Description: Emory River mile 1.9 at underwater weir
Sampler Project Name: TVA ash spill
Project Site No.: 2B blank
Station No.: EMORY001.9RO
Date/Time Collected: 12/08/2009 10:08
Sampler's Name: Geoff Klein
County: ROANE - 73
Sample Matrix: Water
EFO: Knoxville
Sampling Agency: TDEC-WPC
Billing Code: 327.34-20
Send Report To: TDEC-WPC
Agency Invoiced: TDEC-WPC
Priority Date: 12/18/2009
Date/Time Received: 12/08/2009 12:51
Received By: Ken Hitchman

Field Determinations

pH:
Chlorine, residual:
Conductivity:
Temperature:
Dissolved Oxygen:
Other:
Flow: CFS

TEST: Alkalinity, Total		METHOD: EPA 310.2				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	U	mg/L	3.8	10	M Chen	12/15/2009

TEST: Hardness, Calcium		METHOD: SM 3500-Ca D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	U	mg/L	0.7	1	M Chen	12/14/2009

TEST: Residue, Suspended		METHOD: SM 2540D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	U	mg/L	10	10	A Peebles	12/11/2009

J - Estimated value between MDL and MQL
MDL - Method Detection Limit
MQL - Method Quantitation Limit
U - Undetected

Lab-Sample Number: K00003194006
Project Name: TVA-Ash Spill
Sample Description: Emory River mile 1.7
Sampler Project Name: TVA ash spill
Project Site No.: 3
Station No.: EMORY001.7RO
Date/Time Collected: 12/08/2009 10:25
Sampler's Name: Geoff Klein
County: ROANE - 73
Sample Matrix: Water
EFO: Knoxville
Sampling Agency: TDEC-WPC
Billing Code: 327.34-20
Send Report To: TDEC-WPC
Agency Invoiced: TDEC-WPC
Priority Date: 12/18/2009
Date/Time Received: 12/08/2009 12:51
Received By: Ken Hitchman

Field Determinations
pH: 7.51 pH Units
Chlorine, residual:
Conductivity: 44 uMHO
Temperature: 7.05
Dissolved Oxygen: 15.78 mg/L
Other:
Flow: CFS

TEST: Alkalinity, Total		METHOD: EPA 310.2				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	17	mg/L	3.8	10	M Chen	12/15/2009

TEST: Hardness, Calcium		METHOD: SM 3500-Ca D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	16	mg/L	0.7	1	M Chen	12/14/2009

TEST: Residue, Settleable		METHOD: SM 2540F				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Settleable Residue	U	ml/L	0.10	0.10	S Burchfield	12/9/2009

TEST: Residue, Suspended		METHOD: SM 2540D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	27	mg/L	10	10	A Peebles	12/11/2009

J - Estimated value between MDL and MQL
MDL - Method Detection Limit
MQL - Method Quantitation Limit
U - Undetected

Lab-Sample Number: K00003194007
Project Name: TVA-Ash Spill
Sample Description: Emory River mile 0.1
Sampler Project Name: TVA ash spill
Project Site No.: 4
Station No.: EMORY000.1RO
Date/Time Collected: 12/08/2009 10:39
Sampler's Name: Geoff Klein
County: ROANE - 73
Sample Matrix: Water
EFO: Knoxville
Sampling Agency: TDEC-WPC
Billing Code: 327.34-20
Send Report To: TDEC-WPC
Agency Invoiced: TDEC-WPC
Priority Date: 12/18/2009
Date/Time Received: 12/08/2009 12:51
Received By: Ken Hitchman

Field Determinations
pH: 7.46 pH Units
Chlorine, residual:
Conductivity: 44 uMHO
Temperature: 7.18
Dissolved Oxygen: 15.90 mg/L
Other:
Flow: CFS

TEST: Alkalinity, Total		METHOD: EPA 310.2				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	18	mg/L	3.8	10	M Chen	12/15/2009

TEST: Hardness, Calcium		METHOD: SM 3500-Ca D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	17	mg/L	0.7	1	M Chen	12/14/2009

TEST: Residue, Settleable		METHOD: SM 2540F				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Settleable Residue	U	ml/L	0.10	0.10	S Burchfield	12/9/2009

TEST: Residue, Suspended		METHOD: SM 2540D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	32	mg/L	10	10	A Peeples	12/11/2009

J - Estimated value between MDL and MQL
MDL - Method Detection Limit
MQL - Method Quantitation Limit
U - Undetected

Lab-Sample Number: K00003194008
Project Name: TVA-Ash Spill
Sample Description: Clinch River mile 2.3
Sampler Project Name: TVA ash spill
Project Site No.: 5
Station No.: CLINC002.3RO
Date/Time Collected: 12/08/2009 11:04
Sampler's Name: Geoff Klein
County: ROANE - 73
Sample Matrix: Water
EFO: Knoxville
Sampling Agency: TDEC-WPC
Billing Code: 327.34-20
Send Report To: TDEC-WPC
Agency Invoiced: TDEC-WPC
Priority Date: 12/18/2009
Date/Time Received: 12/08/2009 12:51
Received By: Ken Hitchman

Field Determinations
pH: 7.84 pH Units
Chlorine, residual:
Conductivity: 193 uMHO
Temperature: 9.89
Dissolved Oxygen: 17.03 mg/L
Other:
Flow: CFS

TEST: Alkalinity, Total		METHOD: EPA 310.2				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	93	mg/L	3.8	10	M Chen	12/15/2009

TEST: Hardness, Calcium		METHOD: SM 3500-Ca D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	77	mg/L	0.7	1	M Chen	12/14/2009

TEST: Residue, Settleable		METHOD: SM 2540F				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Settleable Residue	U	ml/L	0.10	0.10	S Burchfield	12/9/2009

TEST: Residue, Suspended		METHOD: SM 2540D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	U	mg/L	10	10	A Peebles	12/11/2009

J - Estimated value between MDL and MQL
MDL - Method Detection Limit
MQL - Method Quantitation Limit
U - Undetected

Lab-Sample Number: K00003194009
Project Name: TVA-Ash Spill
Sample Description: Clinch River TVA Discharge Point
Sampler Project Name: TVA ash spill
Project Site No.: 5A
Station No.: KingAshOutF2
Date/Time Collected: 12/08/2009 11:15
Sampler's Name: Geoff Klein
County: ROANE - 73
Sample Matrix: Water
EFO: Knoxville
Sampling Agency: TDEC-WPC
Billing Code: 327.34-20
Send Report To: TDEC-WPC
Agency Invoiced: TDEC-WPC
Priority Date: 12/18/2009
Date/Time Received: 12/08/2009 12:51
Received By: Ken Hitchman

Field Determinations
pH: 7.54 pH Units
Chlorine, residual:
Conductivity: 58 uMHO
Temperature: 7.19
Dissolved Oxygen: 16.55 mg/L
Other:
Flow: CFS

TEST: Alkalinity, Total		METHOD: EPA 310.2				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	21	mg/L	3.8	10	M Chen	12/15/2009

TEST: Hardness, Calcium		METHOD: SM 3500-Ca D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	24	mg/L	0.7	1	M Chen	12/14/2009

TEST: Residue, Settleable		METHOD: SM 2540F				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Settleable Residue	U	ml/L	0.10	0.10	S Burchfield	12/9/2009

TEST: Residue, Suspended		METHOD: SM 2540D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	18	mg/L	10	10	A Peeples	12/11/2009

J - Estimated value between MDL and MQL
MDL - Method Detection Limit
MQL - Method Quantitation Limit
U - Undetected

Lab-Sample Number:	K00003194010	Field Determinations	
Project Name:	TVA-Ash Spill	pH:	7.95 pH Units
Sample Description:	Clinch River mile 4.5 near Sugar Grove Valley F	Chlorine, residual:	
Sampler Project Name:	TVA ash spill	Conductivity:	230 uMHO
Project Site No.:	6	Temperature:	10.75
Station No.:	CLINC004.5RO	Dissolved Oxygen:	16.94 mg/L
Date/Time Collected:	12/08/2009 10:49	Other:	
Sampler's Name:	Geoff Klein	Flow:	CFS
County:	ROANE - 73		
Sample Matrix:	Water		
EFO:	Knoxville		
Sampling Agency:	TDEC-WPC		
Billing Code:	327.34-20		
Send Report To:	TDEC-WPC		
Agency Invoiced:	TDEC-WPC		
Priority Date:	12/18/2009		
Date/Time Received:	12/08/2009 12:51		
Received By:	Ken Hitchman		

TEST: Alkalinity, Total		METHOD: EPA 310.2				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	130	mg/L	3.8	10	M Chen	12/15/2009

TEST: Hardness, Calcium		METHOD: SM 3500-Ca D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	99	mg/L	0.7	1	M Chen	12/14/2009

TEST: Residue, Settleable		METHOD: SM 2540F				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Settleable Residue	U	ml/L	0.10	0.10	S Burchfield	12/9/2009

TEST: Residue, Suspended		METHOD: SM 2540D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	U	mg/L	10	10	A Peebles	12/11/2009

J - Estimated value between MDL and MQL
MDL - Method Detection Limit
MQL - Method Quantitation Limit
U - Undetected